

INTERCOLLEGIATE

BROADCASTING

SYSTEM

NEWSLETTER

59/60 - 7 APRIL, 1960

the lead stories

NATIONAL MEETING PLANS SET -- SCHEDULE REVEALED;

CAPITOL REGION OF IBS HOLDS MEETING APRIL 10th IN D.C.;

FOUR ACTING REGIONAL DIRECTORS APPOINTED.

NATIONAL MEETING: Plans for the IBS-sponsored National Radio Roundtable to be held in New York City at Columbia station WKCR are shaping up. Joe Coons, Chairman of the IBS committee handling the meeting has announced the schedule of events for the sessions, which open at 12:30 on the afternoon of Saturday, April 30th:

- 10-12:30 Registration, tour of WKCR
- 12:30 Luncheon, Ferris Booth dining hall;
Welcome by IBS President Borst.
Address by guest speaker, followed by question period.
- 2:30 Auditorium session:
"IBS - its objectives and history", President Borst.
"The FCC, FM, and IBS", FM Department Manager
Charles Quigley.
- 3:15 Simultaneous Workshops:
"Setting up a Station"
"College Radio FM"
"Advanced Carrier Current & FM Engineering"
"College Station Programming"
"College Station Management"
- 6:30 Dinner (Optional).
- 8:00 Mixer at Columbia Weekend dance.

Although the activities of the day are fixed as this Newsletter goes to press, a questionnaire going out will decide the evening activities as well as determine the demand for an additional Sunday session.

The workshops will feature as leaders the IBS staff members, as well as authorities from campus stations. Their names will be announced in a series of press releases to be mailed all college stations in the country.

Additional highlights of the meeting will be the naming of the program contest winner, audition of the winning tape, and possible award of a valuable piece of station equipment as a door prize.

The IBS Newsletter, Published by the Intercollegiate Broadcasting System at Storrs, Connecticut, for member stations monthly October thru May inclusive.

CAPITOL REGION MEETING: April 10, 1960, is the date set for a regional meeting in Washington of stations in the Capitol Region of IBS.

Emphasis at the meeting will be on advantages of station cooperation to stations in the region. In addition, a particularly interesting phase of the convention should be the remarks of George Abraham, IBS Chairman and Manager of the Washington Office, concerning activities with the FCC.

Charles Quigley, Manager of the IBS FM Department is also scheduled to attend the meeting. He will be at the New York Convention April 30th as well.

MIDDLE ATLANTIC REGIONAL MEETING: Word has literally leaked out to the Editor that there will be a meeting at WRTI, Temple University, sometime in April for all the stations in the Middle Atlantic Region. We'll have a report for you in the next issue we hope!

REGIONAL DIRECTORS NAMED: Overcoming a situation which has plagued IBS this year, IBS President Borst has announced the names of four Regional Directors. These men, faced with the task of re-organizing four regions of IBS which have been without directors, assume voluntarily the job of holding a spring meeting and election in each of their regions.

In the SOUTHERN REGION, Jim Graham has been chosen to take the job. Jim hails from Alabama College and WRSD. As assistant station manager at WRSD, Graham is a two year veteran of college radio, and is currently working on a second class ticket course.

From the GREAT LAKES REGION, President Borst has appointed Tom Bletcher, Program Director of Western Reserve's WRAR. The location of WRAR in Cleveland should make Tom's planned spring meeting a success.

The MIDWEST REGION assumes a meaningful position once again, with the appointment of A. Allan Pons, assistant director of WRSE, Elmhurst College. Pons is a specialist in station engineering.

SOUTHWEST REGION activities are now under the directorship of John H. Bushman, program director of KTJO, Ottawa University. Planning a radio career, John is a veteran of the chief announcing post at KTJO.

The announcement of appointees by Borst leaves three vacancies to be filled, with openings in the New England, Western, and North Central Regions. If you're interested in the job, and are a member of a station in any of the three regions, contact David W. Borst, 319 Spring Valley Road, Springfield, Delaware County, Pennsylvania.

CERTIFICATES OUT: Manager of Member Services Joe Coons reports that he has mailed 18 certificates to various Conditional and Member stations who had not previously received them. If your station does not have a certificate of Membership, contact Coons who will mail you one.

WSBF, the Clemson Student Broadcasting System, reports that the station has recently been granted a Construction Permit for an Educational FM outlet at the college in Clemson, South Carolina.

(FM NEWS)

BROWN UNIVERSITY has just agreed to finance the cost of a channel search for commercial FM operation at station WBRU.

This action by the University is in reply to a proposal by the staff of WBRU in December, 1959, to establish a commercial FM station "... to be a voice for Brown University to the Rhode Island community." The program quality of WBRU - FM would at all times reflect the intellectual atmosphere of Brown. The proposal described a program policy similar in many respects to the higher level of programming of WHRB - FM, Harvard, adding that the Brown station "favors the idea of a radio lecture series, best available through the facilities of WBRU - FM."

The Brown proposal outlined plans to simulcast programs on the present carrier current and proposed commercial FM stations.

CHANNEL SEARCHES: In reply to a question of the cost of a channel search, prompted by the recent Brown action, IBS was happy to report to WBRU that the costs would be almost nothing. The only cost to Brown would be the price of Geological Survey contour maps and a little of their manpower to make some simple technical calculations. However, both the maps and the calculations would anyway have to be included with their license application to the FCC.

A little known and lesser understood service of the IBS FM Department is the channel search which consists of obtaining up-to-date statistics of all FM stations in the area and of making a few calculations of predicted adjacent-channel station interference. The IBS FM Department has for some time had a working relationship with the FCC Broadcast Bureau for review of college station applications for completeness, etc., prior to formal submission to the Commission. As a result, it can obtain the necessary statistics and recommend channels worthy of a closer calculation, based on its practical experience.

By methods described in the forthcoming article in Section 65.00 of the IBS Master Handbook paraphrasing applicable portions of Part 3 of the FCC Rules and Regulations in understandable terms, the college station can use the statistics supplied by IBS to make final calculations.

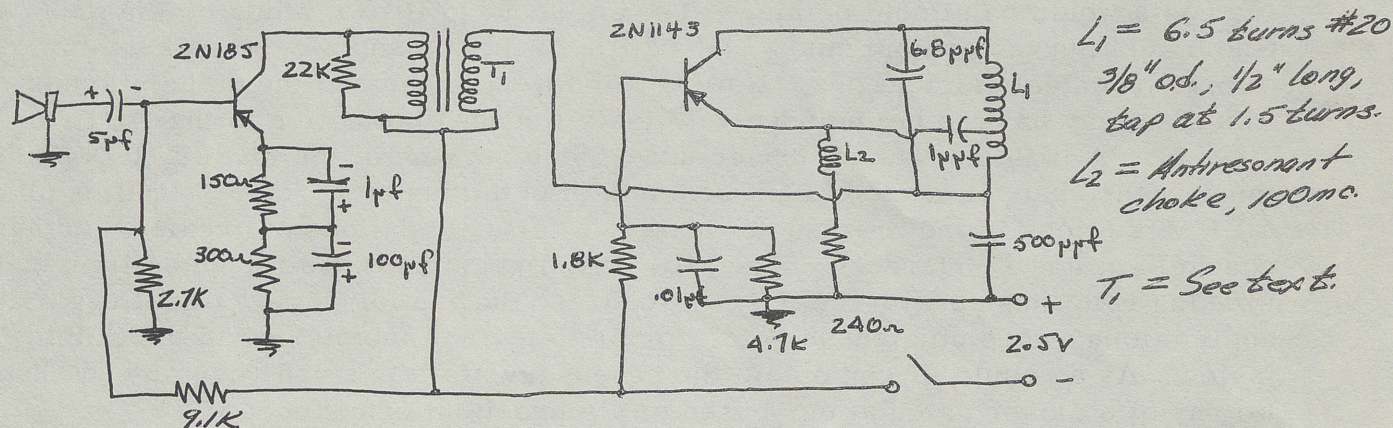
So, once again, IBS provides a service which stations would be hard put to find elsewhere at such low cost.

STATION WHUS, University of Connecticut, has asked IBS to run a channel search for the forthcoming low power commercial test case application. IBS found that, contrary to general opinion, the frequencies in the vicinity of Storrs, Connecticut, site of the University, while tight, still held out several good possibilities for a Class A station.

Station WHUS is now preparing their application for this new form of operation along lines suggested by IBS. WHUS representative Bob Weissman reports he hopes to submit a rough draft to the FM Department for review and suggestions sometime in the near future.

(ENGINEERING NEWS)

TRANSISTORIZED FM WIRELESS MICROPHONE¹: The FM wireless microphone consists of two stages, an audio amplifier modulator and a frequency-modulated oscillator. A Shure MC-20J controlled dynamic microphone drives an audio type PNP (2N185) transistor in a common-emitter Class-A audio amplifier. Partial degeneration in the emitter by R_4 & C_2 helps to improve audio frequency response. Poor low frequency response is due to the small inductance of the audio transformer. Peak audio voltage swing is controlled by placing R_3 across the audio transformer. The audio transformer impedance ratio is 10K ohms to 500 ohms with the high impedance winding connected to the audio amplifier collector. The frequency modulated oscillator is a diffused-base PNP transistor (2N1143) used as a common-base oscillator. Output voltage from the audio amplifier is applied to the oscillator collector and oscillator frequency changes are proportional to the amplitude of the voltage applied. Since voltage amplitude variations are at an audio rate, frequency deviation is also at an audio rate.



This circuit is similar to an amplitude modulated oscillator circuit, the difference being the peak value of the audio voltage applied. Peak audio voltages applied to the oscillator collector will amplitude modulate the oscillator less than 10%. Peak audio voltage at the transformer secondary is about 0.1 to 0.2 volts. Frequency modulation is accomplished by varying the collector capacity of the transistor with changes in the collector voltage. Collector output capacity of the diffused-base transistor will change approximately 0.1uuf when the operating collector voltage is 2.5 and collector voltage changes are approximately 0.1 volt. If the oscillator tank capacitor is small enough, collector output capacity becomes an appreciable part of the oscillator tank circuit. Frequency deviation can be controlled by the size of the tank capacitor as well as by the amount of audio voltage applied to the oscillator. A deviation of 200 kc can be achieved with a collector voltage swing of 0.1 volt. Amplitude modulation can be minimized by choosing a value of tank capacitor small enough to achieve the required frequency deviation with minimum voltage changes at the oscillator collector.

No external antenna was used because radiation from the tank coil, L_1 , was sufficient for a good signal to be received by a Heathkit FM tuner at a distance of 40 feet. Bass emphasis should be added to the receiver to compensate for the poor low-frequency response of the wireless microphone. Power for the unit is furnished by a 2.5 volt mercury battery, Mallory type FR132R. Total current drain is 5 ma. The unit is enclosed in a plastic pill box 3 x 2 x 3/4in. and weighs about 100 grams.

(ENGINEERING NEWS, cont'd.)

about 6 ounces.

(by Floyd Ducote, Texas Instruments Inc., Dallas, Texas, reprinted by permission of Electronic Equipment Engineering - August 1959.)

(Ed. Note: This device may have interesting applications to the campus station.)

ALL CONTINENTAL AM, FM, AND TV stations will participate in a CONELRAD drill on May 3, 1960. The Office of Civil and Defense Mobilization has scheduled the drill from 1:00 to 1:30 PM EST.

All standard AM broadcast stations not holding National Defense Emergency Authorizations for operation on 640 or 1240 kc, as well as all FM and TV stations, will leave the air and remain silent during the thirty minute drill. However, those stations affiliated with State Defense Networks (FM) will operate during the period with CONELRAD Drill program material.

The test will not be initiated by the CONELRAD sequence, but stations will operate by Naval Observatory time.

ABC, CBS, MBS and NBC wire lines will furnish program material to NDEA stations.

ALL COMMISSION LICENSEES (as opposed to carrier current operators) are required to file FCC Form 324 by April 1st, the IBS Engineering Manager advises.

A GATES 10 WATT FM transmitter is available for sale used. Interested parties should contact Charles Quigley, IBS FM Department Manager.

- IBS -

PROGRAM CONTEST: As we go to press IBS Program Manager Terry S. Bateman announces that he has received a number of entries for the Program Contest, the deadline for which is our press date.

The judges for this Program Contest will be:

Fr. Francie J. Heyden, S. J., Director of Radio-TV Activities at Georgetown University and an old IBS Program Department staff member;

Mr. William H. Seibel, Assistant Professor of Radio and Television at Temple University in Philadelphia and IBS Program Department Associate;

Mr. Kenneth R. Clark, a doctoral candidate at the University of Ohio and former Instructor in Radio & Television at Stanford University.

Program Manager Bateman has been fortunate and has secured a fine representation to judge the tapes submitted. Winner is to receive either 24 reels of recording tape of \$30 cash. National Meeting in New York City on April 30th will be the scene of the announcement of the winner of the contest.

- IBS -

Intercollegiate Broadcasting System
Storrs, Connecticut

The IBS NEWSLETTER
for April 1960

Printed Matter

"this is the Intercollegiate Broadcasting System"